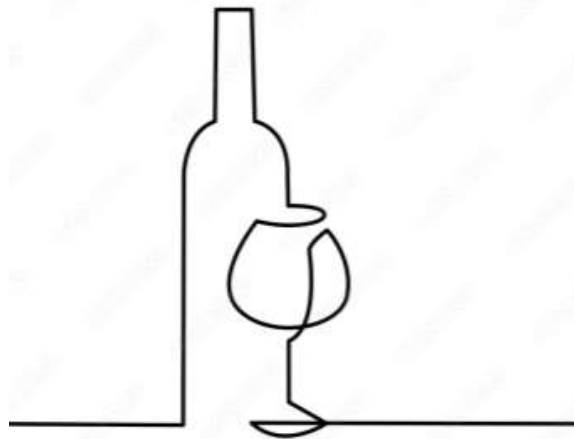


# Spirit of innovation or historical tradition? The complex dilemma of EU policy for renowned products

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## Why?

The European Green Deal, the flagship economic and environmental initiative of the EC, requires policy adjustments in various sectors to make sure that no one is left behind (EC, 2020). **Within the EU Green Deal, the Farm to Fork strategy is the strategy aiming to make agricultural and food systems more sustainable, with the CAP as a key channel to support the transition.**

To bolster the competitiveness, sustainability, and resilience of the agrifood systems, **research and innovation** has been recognised instrumental as they can create new opportunities and accelerating the necessary transition to overcome structural sectorial barriers. The CAP incentives and support the adoption of innovations recognising "*fostering knowledge and innovation*" as one of the ten objectives of the 2023-2027 programming period

At the same time, "**improve the response of EU agriculture to societal demands on food and health, including high-quality [...] food**" (EC, 2020). The **EU Geographical Indications (GIs)** policy, established in 1992 and just recently in March 2024 (Reg. EU, 2024/xx), singled out the GI scheme at the centre of the European Green Deal



## What are GIs?

GI is a sign used on agri-food products that have a specific geographical origin and possess qualities and reputation that are essentially or exclusively due to a particular geographical environment, made of natural and human factors (Reg. No.2012/1151, food; Reg. No.2013/1308, wine; Reg. No.2019/787, spirit; Reg. No.2014/251, aromatised wines)

- GIs link agri-food products with the region of origin
- The distinctive features of these products are the results of all the contextual **environmental, human, historical characteristics, and cultural habits** of their region of origin



## Why GIs are so acclaimed?

Paolo de Castro (S&D, Italy) as rapporteur highlighted that the GI scheme **“is no longer merely a cultural issue affecting a few countries or a region, but has unique economic, social and political significance, creating value without the need of any public fund”**

- **Non-market goals:** produce public goods (e.g., landscapes, De Simone et al. 2023), address market failures (information asymmetry, Stranieri et al. 2017), support sub-optimal production conditions (small farmers)
- **Economics benefits** at both firm and territorial level in national and international markets: population growth and employment rate (Crescenzi et al., 2022), sector added value (Cei et al., 2018), and tourism attractiveness (De Simone et al., 2023), exports (Giua et al., 2024), attraction of FDI (Crescenzi et al., 2023), quality of imports (Curzi and Vaquero-Piñeiro, 2024)

A quite huge gap remains however on **to what extents the traditional knowledge-based orientation of GI production affects the innovation**

## Why should GIs negatively impact innovation?

Josling (2006), Bowen and Zapata (2009), Kuhne and Gellynck (2009) introduced in their studies the idea the traditional culture of production of GIs may not fit well with innovation:

- Moerland (2019): geographical indications and innovation do not seem to fit well together
- Stranieri et al. (2023): the diffusion of GIs enhanced innovative activities, but only for laggard regions farer from the technological frontier
- Guerrere et al. (2009): the application of innovations may damage the traditional character of traditional food products
- Basole (2015): concluded that GI will discourage innovation
- Mancini et al. (2019): innovation can mediate the diffusion of traditional knowledge among producers

## Why should GIs positively impact innovation?

- PSs may be used to establish higher sustainability and innovation requirements (EC, 2024; Ruitz et al. (2018)
- virtuous inter-organizational formal and informal networks that characterized GI territories (Crescenzi et al. 2022)
  - The coordination that lies beyond the GI system management may support the AKIS system

Today, the issue is however like never before relevant:

- the increasing diffusion of the GI system
- the EU Green Deal objectives, innovation is crucial to keeping agrifood firms competitive (Curzi et al., 2022; Läpple and Thorne, 2019)
- the 2024 EU Law extends the GI protection to craft and manufacturing products

Do the acknowledgment affect the innovative activity of the region of origin?

Is the GI policy adoption beneficial, or not, to innovation adoption?

**Period:** 1991-2020

At the beginning of our sample (1991) no one of the municipalities are acknowledged by an EU GI. This change in 1992 when the policy has been introduces

**Focus:** Italy

A pioneering country of the GI system from the 60s, and nowadays the EU country with the highest number of product certified (853, whose more than 500 are wines)

**Level:** Municipalities (the most disaggregated level available)

**Data** original geo-referenced database

- Official information from Product Specifications (Crescenzi et al., 2023)
- Administrative census data (ISTAT); Sensoring data
- Patent data, source: REGPAT

## **Treatment:** Wine PDOs

- the wine sector is the agrifood sector more involved in innovation (Pomarici et al., 2021)
- the first sector with a public certification system for sustainable production (Equalitas, since 2024)
- PDOs exact matching between territory and production, and have specific restriction for innovations in vineyards

## **Outcomes:** Agrifood patents

- agricultural sector as well as those related to foodstuffs (food processing), at which we add the beer and wine industry.

Not only pure: innovators can target domain not exclusively linked to the agricultural and food sector. The majority of registered patent has in fact more than one domain and are not exclusively linked to the agrifood activities






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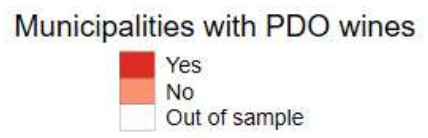
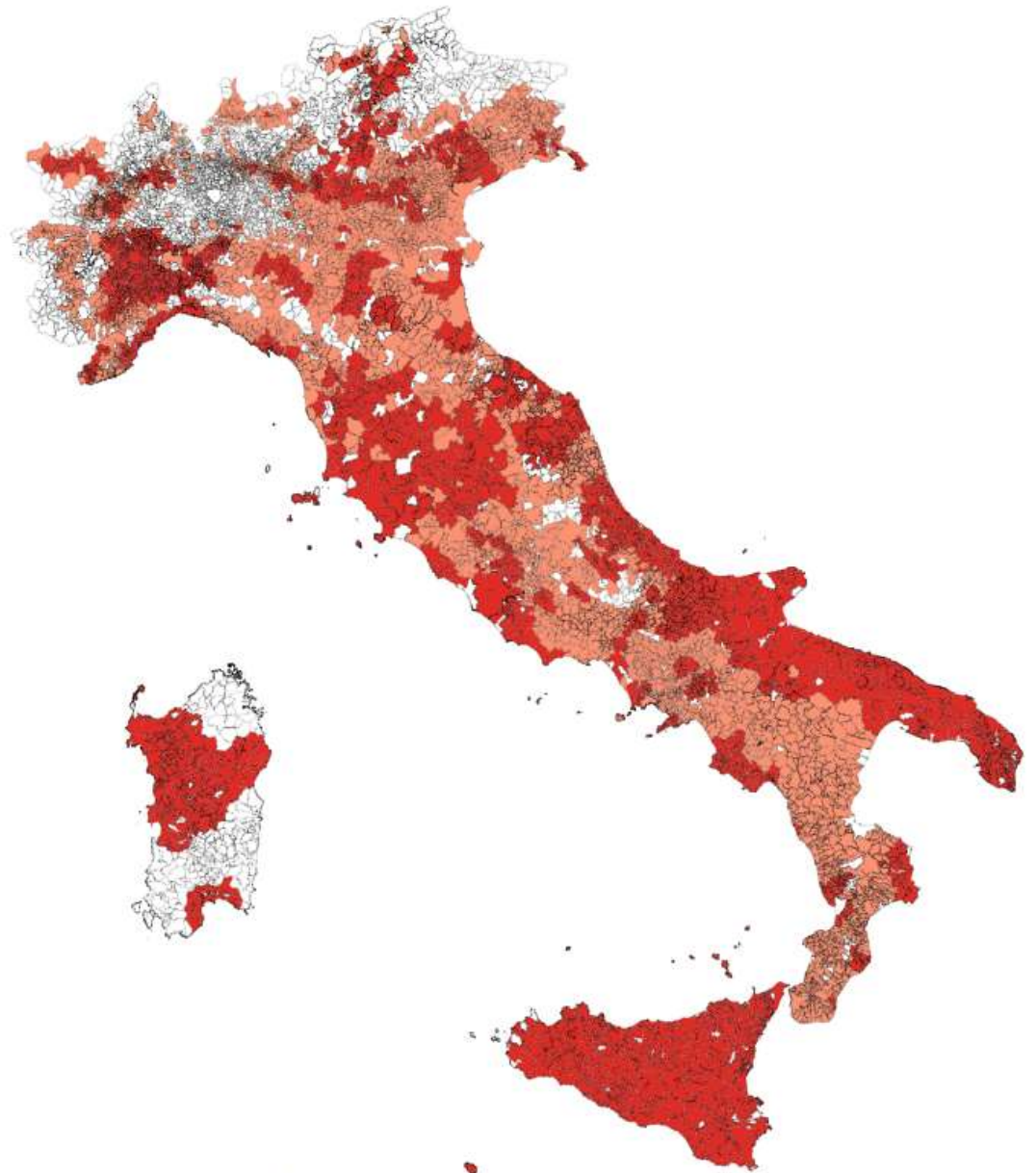
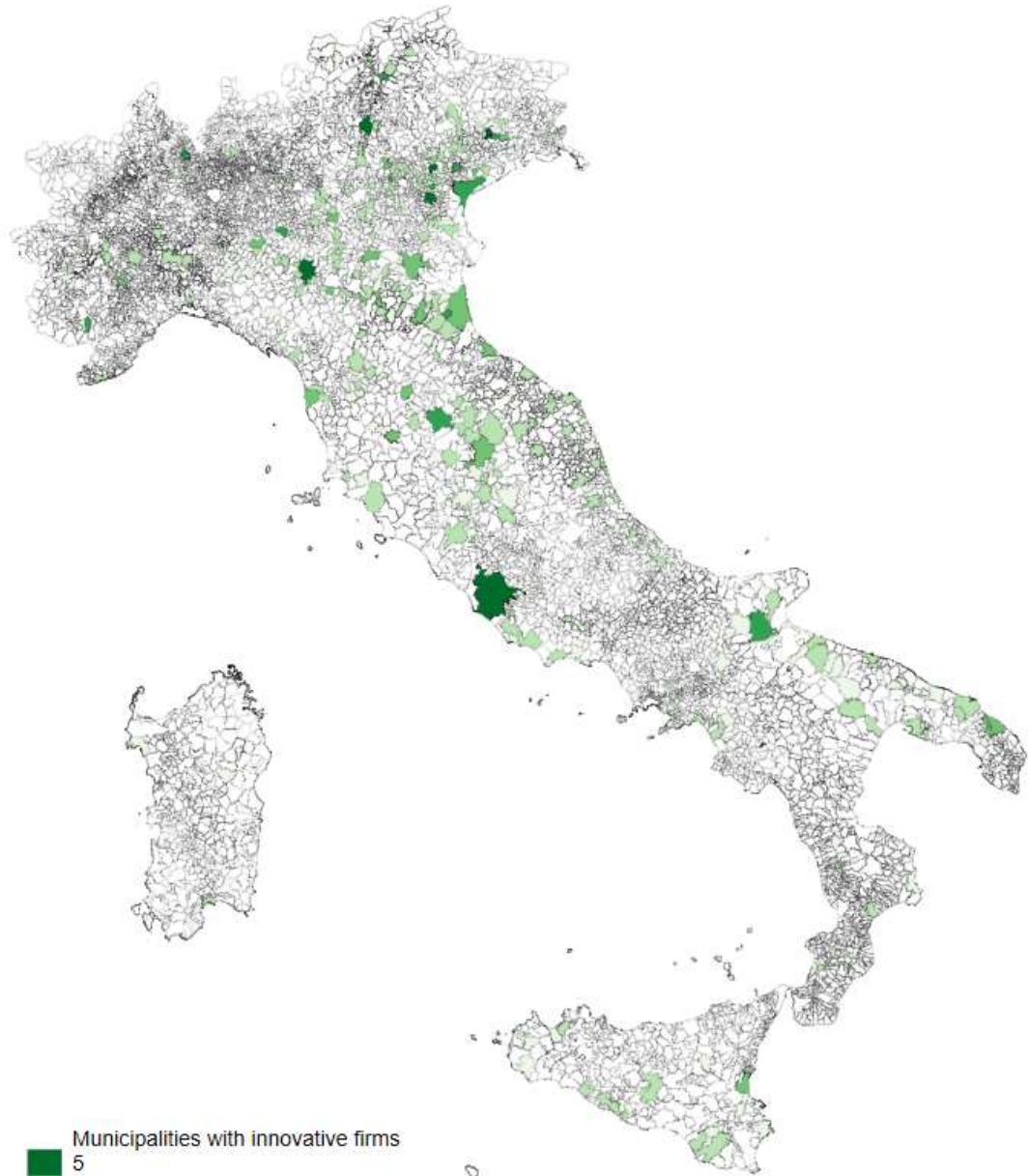
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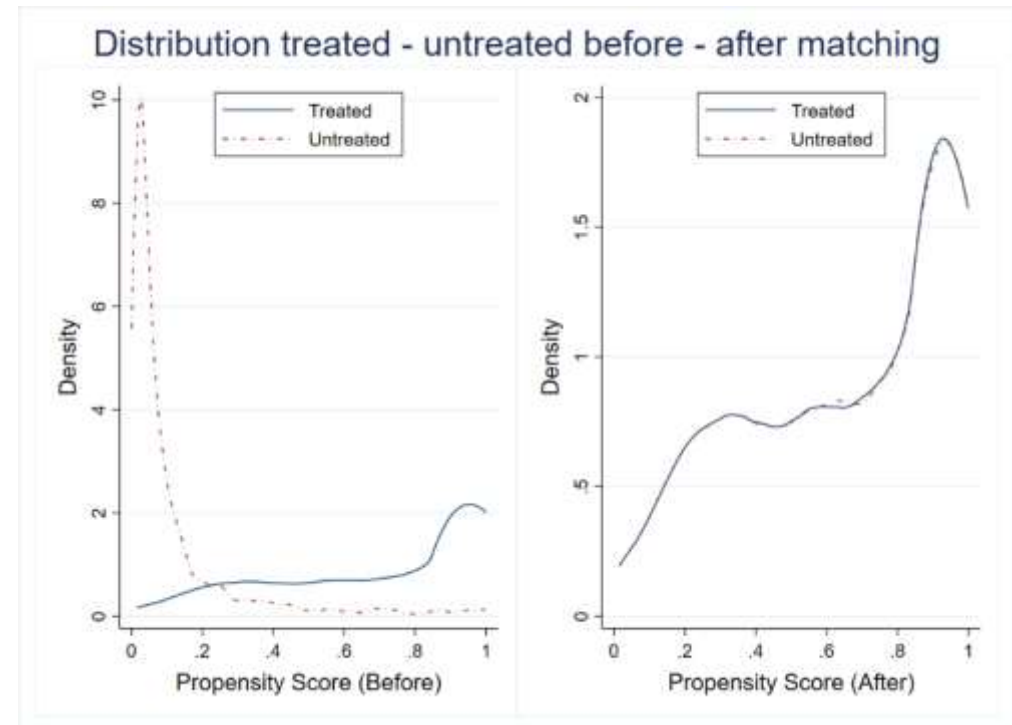


# Methodology

1. one to many k-nearest PSM (Rosenbaum and Rubin, 1983)

Controls: population density, elderly rate, remote housing, high-education rate, employment rate, distance from major cities, Utilised Agricultural Area, winegrowing farms density, winegrowing farms' physical size, family farms, Utilised Agricultural Area diffusion, altitude, spatial lagged wine PDO, spatial lagged agri-food patent

- 108 municipalities are off support
- Matching balance and parallel-trend test satisfied



## Empirical strategy

### 2. DiDs Static

- 5 years pre-post
- a static picture of the phenomenon

$$Innovation_{it} = a + \beta_1 PDO_{it} + \beta_2 Post_{it} + \beta_3 (Post_{it} * PDO_{it}) + Controls_{it} + \mu_i + \varepsilon_{it}$$

- $i$  is the municipality and  $t$  is the pre-post period
- $Post_{it} * PDO_{it}$  is the interaction term between these two variables and capture the effect of the presence of a PDO acknowledgment
- **Controls**: dummy variable accounting for the presence of PGI wines, unbalanced covariates (population density), NUTS3 fixed effects

$Innovation_{it}$  is declined in terms of the probability of having at least one patent in the technological fields under analysis (i.e., log transformation of the binary variable + 1).

## Methodology

### 3. DiDs dynamic (à la Callaway and Sant'Anna)

- cohort based *dynamic estimation* used when a unit becomes treated at a given time and remained treated for all the next times.

$$Innovation_{i,t} = \alpha + \beta_1 PDO_{it} + Controls_{it-1} + \gamma_i + \mu_t + \varepsilon_{it}$$

- $i$  is the municipality and  $t$  is year
- $PDO_{it}$  is the dummy that capture the presence of a PDO acknowledgment
- **Controls**: dummy variable accounting for the presence of PGI wines, unbalanced covariates (population density), NUTS3 fixed effects

$Innovation_{it}$  is declined in terms of the probability of having at least one patent in the technological fields under analysis (i.e., log transformation of the binary variable + 1).

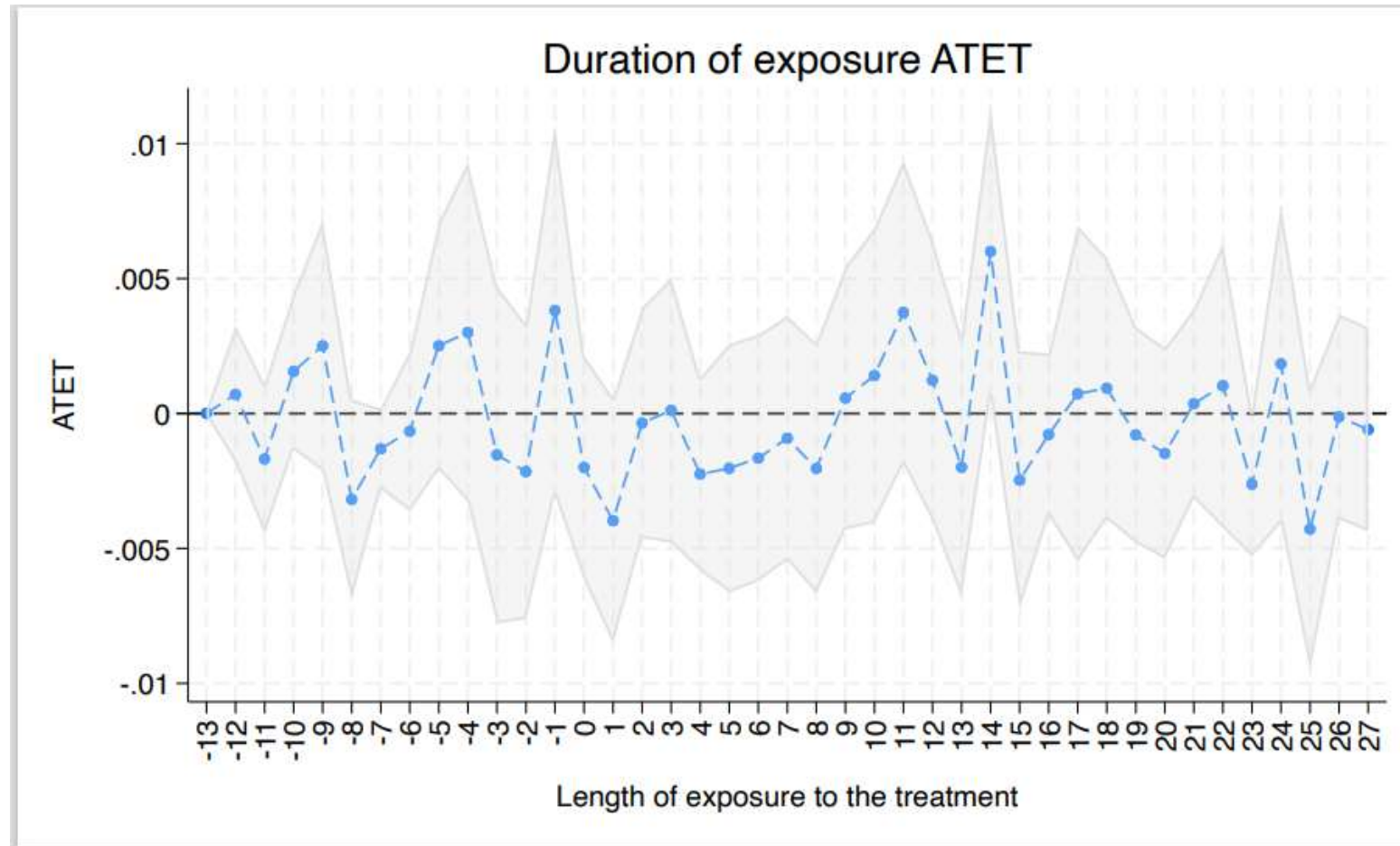
## The impact of GI policy on agrifood innovation

Even if the magnitude of the effect is lower, in comparison with the non-treated municipalities, **the inclusion within a GI area generates an average increase** in the probability of registering an innovation patent in the technological fields under analysis in treated areas

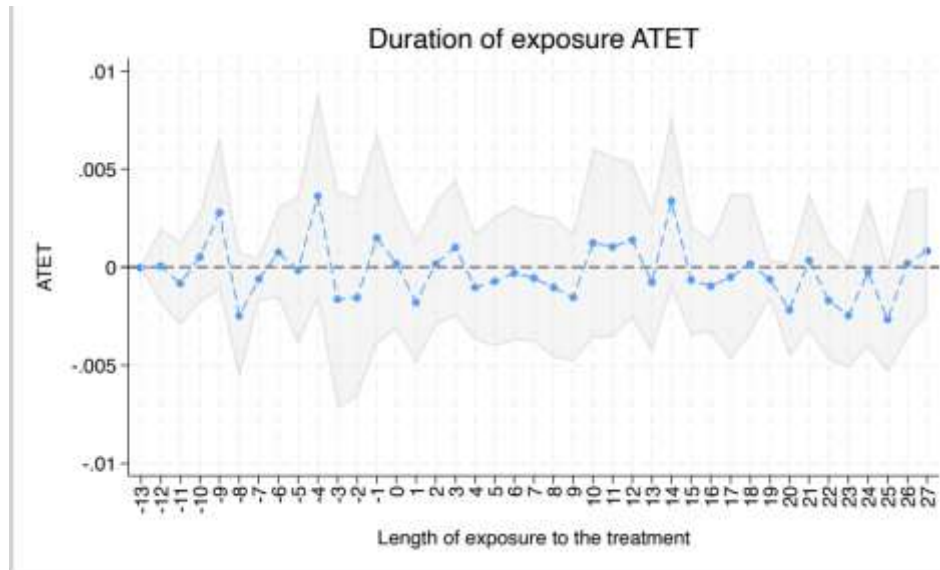
	Agrifood patent	Agricultural patent	Food patent	Only Agrifood patent
	(1)	(2)	(3)	(4)
PDD*Post	<b>0.0026***</b> (0.0006)	<b>0.0014***</b> (0.0005)	<b>0.0012***</b> (0.0004)	<b>0.0013**</b> (0.0005)
Treated (PDD)	Yes	Yes	Yes	Yes
Post	Yes	Yes	Yes	Yes
PGI control	Yes	Yes	Yes	Yes
Unbalanced covariates	Yes	Yes	Yes	Yes
NUTS3 fixed effects	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Observations	3,209	3,209	3,209	3,209
R2	0.1	0.06	0.05	0.06

## The impact of GI policy on agrifood innovation over time

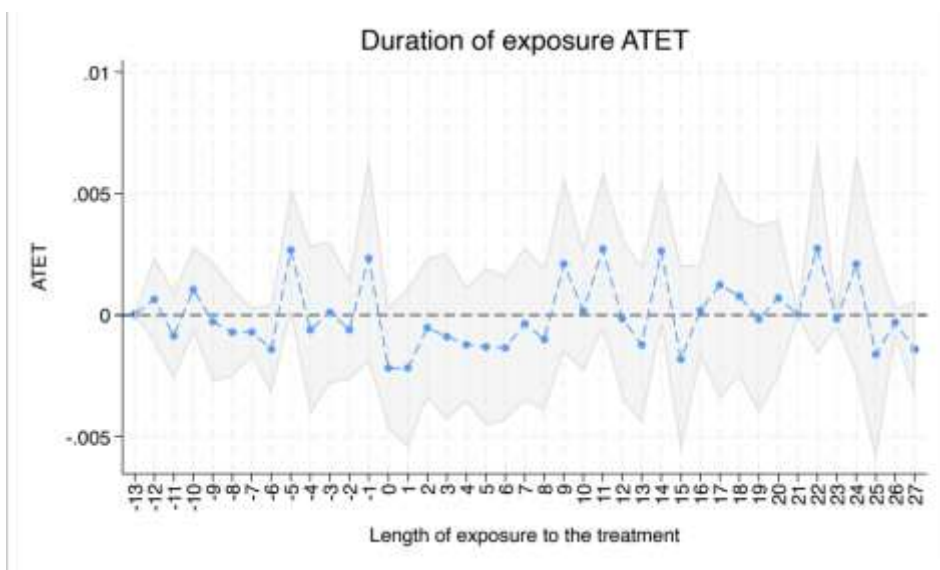
The effect seems to not increase as exposure to treatment augments



## AGRI



## FOOD





**There is not exclusion competition between GIs and innovation, even if there is no evidence of a clear increasing effect**

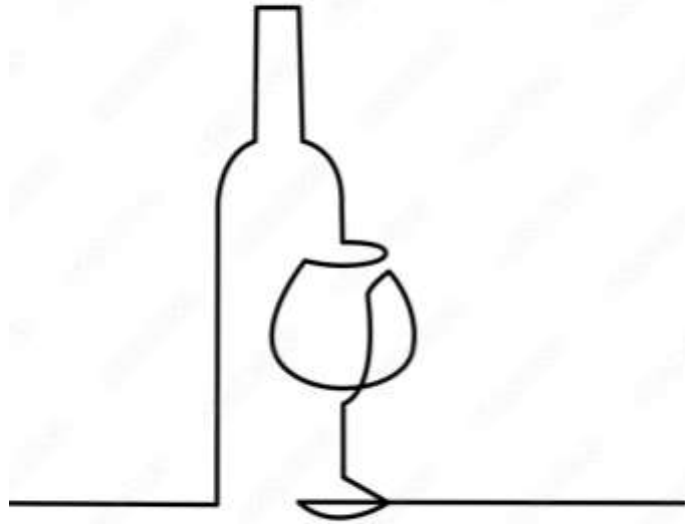
- Empirical approach for policy evaluation

**So, to "*foster knowledge and innovation*" ...**

- a more **inclusive and cohesion strategy is needed to spur innovation**. CAP and AKIS; regional policies (i.e., Cohesion Policy), specific national strategy (such as the SNAI strategy in Italy) or EU plans (e.g., Smart Specialization Strategy)

Regarding the **new EU Law of GIs (2024)**, innovation performance should be

- supported by the introduction of a more simplified and short amendment procedures for changing existing products specifications,
- limited by the fact that the EU did not introduce specific sustainability requirements
- ex-ante socio-economic conditions and inter-organizational relationships bias - *National or sub-national institutional supports become fundamental*



Thank you for your attention!

